

Name: _____

p1105: Factoring when $a = 1$ (v13)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5 . Focus on finding factor pairs of -24 . Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 + 9x + 18$

$$(x + 3)(x + 6)$$

2. Factor $x^2 - 10x + 21$

$$(x - 3)(x - 7)$$

3. Factor $x^2 + 7x - 8$

$$(x + 8)(x - 1)$$

4. Factor $x^2 + 8x + 15$

$$(x + 3)(x + 5)$$

5. Factor $x^2 + 6x + 9$

$$(x + 3)(x + 3)$$

6. Factor $x^2 - 13x + 42$

$$(x - 6)(x - 7)$$

7. Factor $x^2 + 12x + 27$

$$(x + 9)(x + 3)$$

8. Factor $x^2 + 5x - 24$

$$(x - 3)(x + 8)$$

9. Factor $x^2 - 17x + 72$

$$(x - 9)(x - 8)$$

10. Factor $x^2 - 6x - 27$

$$(x - 9)(x + 3)$$

11. Factor $x^2 + 2x + 1$

$$(x + 1)(x + 1)$$

12. Factor $x^2 - 16x + 64$

$$(x - 8)(x - 8)$$

13. Factor $x^2 + 14x + 45$

$$(x + 9)(x + 5)$$

14. Factor $x^2 + 5x - 14$

$$(x - 2)(x + 7)$$

15. Factor $x^2 - 9x + 20$

$$(x - 5)(x - 4)$$